CALL MESSAGE SERVICE

CROSS-REFERENCE TO RELATED APPLICATION

The following applications have been filed simultaneously with this application:

1. Implied Principal Addressing In A Call Coverage Arrangement; Ser. No. 363,423; J. L. Cottrell-R. A. Davis-S. K. Harris-B. R. Jones-J. Y. Payseur, now U.S. Pat. No. 4,436,963. 2. Call Coverage Arrangement; Ser. No. 363,422; R. A. Davis-S. K. Harris-B. R. Jones, now U.S. Pat. No. 4,436,962.

TECHNICAL FIELD

The invention pertains to telephone systems in general, and particularly to call coverage and message related services in telephone systems. More particularly, the invention pertains to party initiated automatic message services referred to herein as "leave word calling" (LWC) and "coverage callback" (CC).

BACKGROUND OF THE INVENTION

Call coverage arrangements in telephone systems allow calls directed to a principal's telephone station to be answered by someone other than the principal for the purpose of receiving messages, etc. Such arrangements have typically consisted of call answering pools, bridged appearances of principals' lines at secretaries' stations and call pickup services. Call pickup operates by allowing a call directed to one station of a defined group of stations to be answered by any other station in the group. Typically, the answering station in the call pick-up group goes off-hook and dials a special access code. The call is then automatically transferred to the answering station. In the typical bridged appearance situation, a secretary or attendant answers a principal's station by depressing a dedicated button to bridge onto the principal's line. The answering party may receive a message for the principal and alert the principal by depressing a dedicated button to light a message waiting lamp at the principal's station.

More recently, automatic callback and electronic mail services have enhanced telephone party services. Automatic callback services typically allow a calling party to request a system to automatically monitor a busy called station and initiate a call to both stations when both are idle. Electronic mail services require sophisticated terminals, such as a keyboard at a caller's station and a cathode ray tube (CRT) display at a called station. A caller dials a special telephone number to connect with the electronic message service and then types in a textual message to be stored and later read on the CRT by the intended principal.

Electronic mail, while offering excellent message service, is inherently expensive and thus limited in most applications to preferred parties. Automatic callback, while being effecive, is not sufficiently flexible to meet the needs of all users. The various types of manual message services, on the other hand, are cumbersome, slow and expensive in terms of personnel time. Thus, there is a need in the telephone art for a flexible, inexpensive and convenient message service.

SUMMARY OF THE INVENTION

The above problems are solved and an advance in the state of the art is obtained in an arrangement for providing calling message service in a telephone system serving a plurality of stations. The system automatically generates a callback message for a called principal station in response to an activating signal from one of the stations having an association on a call to the principal station. The message includes the identity of a station also having an association with the call and being identified by a predetermined algorithm. The system stores the message in a system memory and automatically operates a message waiting indication for the principal station to alert the principal of the presence of the message.

The call message service is illustratively referred to as "Leave Word Calling" (LWC) service. LWC service is an integrated part of a sophisticated and comprehensive message service and call coverage arrangement. The arrangement allows automatic callback message generation on calls to principal stations and/or redirection of calls to be prespecified call covering stations, such as secretary stations and/or message centers, under defined conditions.

Some stations served by the system are equipped with a LWC button used to activate the generation and storage of a LWC message. Alternatively, this feature may be activated by a dial access code from stations not equipped with a LWC button.

The LWC feature may be activated at any time during a call from any station having an association with the call. Such stations are, for example, the calling station, the called principal station, and an answering station. In each case, a message is stored which requests that the principal return a call to the calling station. The calling station is defined as the answering station for purposes of the LWC message when the answering party activates the feature. This allows an answering party to accept a textual message other than a simple callback request for the principal from the caller and to generate and store conveniently an LWC message for the principal to call the answering party to receive the textual message.

In accordance with one feature of the invention, a caller having a station equipped with an LWC button may activate the generation of an LWC message by depressing the LWC button after going off-hook and dialing the number of the principal station. By way of example, if a talking state is established with either the principal station or an answering station when the LWC feature is activated, the talking state is unaffected. On the other hand, the call is terminated by activation of the LWC feature for any other call state.

A caller may activate the LWC feature without ringing the principal by operating the LWC button after receiving dial tone and before dialing the number of the principal station. To activate the LWC feature from stations not equipped with an LWC button, the caller must reinitiate dial tone, such as by flashing the station switchhook. The caller dials a special access code after receiving dial tone and then dials the principal station number. The principal station is not rung after activation of LWC by special access code.

In the illustrative system to be disclosed, calls may be redirected to other stations until specified conditions such as in call pickup or call forwarding situations. In other circumstances, calls may be automatically redirected to call covering stations. Covering stations may be equipped with a second button called a "coverage callback" (CC) button. An operation of the CC button by a covering party on a principal call also activates the